

Bobcat Population Analyses 2006

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Abstract

Age and reproductive data obtained from 3,250 bobcats harvested during the 1983-2004 seasons were used to evaluate Wisconsin's bobcat population. Analysis suggested that fall population size increased from about 1,500 to about 3,100 during the 1990s but may have stabilized in recent years.

Methods

Successful hunters and trappers were required to register their bobcat at a DNR station and turn in the carcass at that time. The sex, date of harvest, and county of harvest were recorded for each carcass. A canine tooth was extracted and sent to Matson's Lab, Milltown, MT for processing and aging (determined by counting annuli in the cementum). Ovaries and uteri were removed from all female carcasses. Uteri were examined for the presence/numbers of placental scars and ovaries were examined for corpora lutea. Bobcat population estimates and trends were determined by incorporating data on harvest size and composition and reproductive rates into Minnesota's Furbearer Population Model. Population trends simulated by the model were compared to data from the Winter Furbearer Track Count survey.

Results

Biological samples were obtained from 387 (243 males, 143 females, 1 unknown) bobcats harvested during the 2005 season. Age information from those carcasses is not yet available. Data from the carcasses collected since 1983 are summarized in Tables 1 and 2.

Kits averaged 25% of the bobcats harvested during 1983-2004, yearlings 22%, and adults 53% (Table 1). Adults (≥ 2.5 year old) comprised an average of 44% of the harvest during 1983-93, 54% during 1994-98, and 64% during 1999-2004. Examination of 1,058 female reproductive tracts showed mean pregnancy rates of 39% for yearlings and 76% for adults. The mean number of placental scars per pregnancy was 2.8 (Table 2).

Harvest, age, and reproduction data were incorporated into the Minnesota Furbearer Population Model. Analyses suggest that the fall bobcat population in northern Wisconsin fluctuated between 1,500 and 1,900 during the 1980s and early 1990s (Fig. 1). During 1993-2003, the population increased consistently due to conservative harvests. Higher harvests in recent years may be limiting further population growth. Winter track count surveys (Roth and Dhuey 2005) generally support population trends suggested by the model. Three-year mean numbers of bobcat tracks observed per transect have increased substantially since 1993.

The fall population prediction from the model for the portion of Wisconsin north of State Highway 64 for 2006 is approximately 2,900. The WDNR Furbearer Advisory Committee recommended a harvest of 350 bobcats for the 2006 season. That harvest level should stabilize the bobcat population at its current level.

Literature Cited

Roth, A. and B. Dhuey. 2005. Winter track counts, 1977-2005. IN: The Wisconsin Wildlife Surveys Report. August 2005. Document on file at the Wisconsin Dept. of Natural Resources, Bureau of Integrated Science Services, Monona, WI 53716.

Table 1. *Ages of bobcats harvested in Wisconsin, 1983-2004.*

Year	No. Aged	Percent in age class						
		Kits	1	2	3	4	5	6+
1983	84	23.8	31.0	14.3	13.1	6.0	3.6	8.3
1984	97	25.8	25.8	10.3	13.4	13.4	6.2	5.2
1985	168	32.1	30.4	10.7	7.1	5.4	7.1	7.1
1986	158	27.9	27.9	11.4	7.0	8.2	4.4	13.3
1987	221	31.7	26.7	16.7	10.4	3.6	2.3	8.6
1988	127	34.7	30.7	10.2	8.7	4.7	3.2	7.9
1989	103	23.3	26.2	17.5	12.6	9.7	3.9	6.8
1990	86	44.2	23.3	15.1	7.0	3.5	2.3	4.6
1991	57	26.3	28.1	24.6	12.3	7.0	0.0	1.8
1992	181	21.6	28.2	16.6	9.9	9.4	6.6	7.7
1993	129	23.3	23.3	17.8	19.4	3.9	7.8	4.7
1994	153	23.5	24.8	15.7	9.8	7.8	6.5	11.8
1995	77	23.4	19.5	13.0	13.0	6.5	10.4	14.3
1996	109	26.6	21.1	18.3	9.2	11.0	2.8	11.0
1997	139	23.0	18.7	22.3	10.8	10.1	5.0	10.1
1998	169	26.6	23.1	17.2	10.1	8.9	2.4	11.8
1999	140	28.6	15.0	16.4	13.6	10.0	7.9	8.6
2000	227	20.7	18.1	15.9	14.5	12.3	6.2	12.3
2001	111	15.3	17.1	26.1	23.4	7.2	3.6	7.2
2002	162	14.2	17.9	20.4	16.7	16.0	7.4	7.4
2003	257	17.5	12.8	16.0	17.9	16.0	8.6	11.3
2004	295	22.0	19.3	12.5	12.9	9.5	10.2	13.6
Total	3,250	24.6	22.4	16.0	12.5	9.1	5.8	9.5

Table 2. Reproductive rates of female bobcats harvested in Wisconsin, 1983-2004.

Year	No. of Carcasses	Pregnancy rates (%)		Mean number placental scars/preg.
		Yearlings	Adults	
1983	39	25	77	2.3
1984	31	11	59	2.6
1985	60	31	56	2.2
1986	49	33	70	2.6
1987	62	40	79	2.7
1988	35	72	94	3.1
1989	39	57	70	2.9
1990	23	27	70	3.1
1991	18	20	67	3.0
1992	58	38	71	2.4
1993	47	14	40	1.9
1994	40	27	75	2.8
1995	24	63	69	2.6
1996	35	71	92	2.8
1997	54	42	87	3.2
1998	50	29	75	2.7
1999	39	57	91	3.1
2000	73	44	72	3.3
2001	35	63	69	2.9
2002	65	54	90	3.0
2003	87	41	86	2.6
2004	95	32	74	3.0
Total	1,058	39	76	2.8

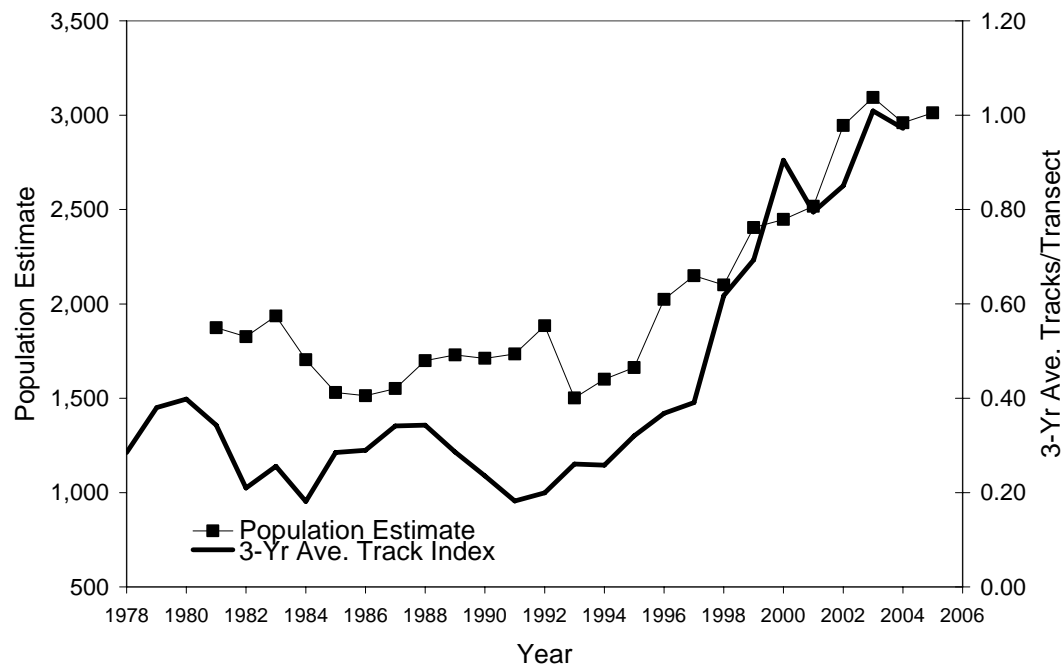


Figure 1. Prehunt bobcat population estimates and 3-year mean numbers of bobcat tracks observed per transect in winter track surveys, 1978-2005.